AMENDMENTS TO THE DRAWINGS

Applicant forwards for approval by the Examiner two (2) Replacement Sheets. These replacement sheets include the corrections requested by the Examiner. Specifically, reference numeral 129 has been added to Fig. 1 and reference numerals 230 and 231 have been added to Fig. 2.

REMARKS

Claims 1-32 and 42 were pending in the Application prior to the outstanding Office Action. With this Amendment, claims 1-32 and 42 remain in the case.

The Examiner has acknowledged applicants' election of Group I (claims 1-32 and 42) and the election is being treated as an election without traverse in accordance with MPEP §818.03(a).

Drawing Objection (37 CFR 1.84(p)(5))

The Examiner has objected to the drawings as failing to comply with 37 C.F.R. §1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: reference number 129 in paragraph 0038; and reference numbers 230 and 231 in paragraph 0049. Corrections are appended hereto.

Informal Claim Objections

The Examiner has objected to claim 20 because in line 5, "the gain medium" should be -- a gain medium --. Applicants have amended claim 20 as suggested by the Examiner herein.

The Examiner has objected to claim 42 because in line 7, "juoles" should be -- joules --. Applicants have amended claim 42 as suggested by the Examiner herein.

Rejection of Claim 20 under 35 U.S.C. §102(b)

The Examiner has rejected claim 20 under 35 U.S.C. §102(b) as being anticipated by Dane et al. (Design and Operation of a 150 W Near Diffraction-Limited Laser Amplifier with SBS Wavefront Correction in IEEE Journal of Quantum Electronics, Vol. 31, No. 1, January 1995). Reconsideration is respectfully requested.

The Examiner has taken the position that Fig. 1 of Dane et al. shows a relay telescope relaying an image of the output of the gain medium to an image location near the phase conjugator. However, this is not correct. Dane et al. teaches the use of a "down collimating telescope", which takes an input collimated beam of one size and reduces it to a smaller size. The relay telescope of the claim takes light forming an image from an image plane and recreates that image at another image plane. The optics and effect of the optics are substantially different than in a collimating telescope as shown in Dane et al. In a collimating telescope there are no

image planes within the amplifier loop. Rather, the "image planes" of a collimating telescope are set at the imaginary locations, positive and negative infinity. Claim 20 requires image planes within the amplifier loop as recited in the claim.

Furthermore, it is found that a significant advantage arises from the claimed configuration, not recognized in the prior art. In particular, the phase conjugator more faithfully reproduces the full beam for reflection back through the amplifier when the image is relay imaged into the conjugator.

In addition, the baffle recited in claim 20 is not included in the Dane et al. design. The down collimating telescope in Dane et al. does not include a baffle. It is not clear what structure the Examiner is relying upon in Dane et al. to provide this element of the claims. In a high power amplifier, without a baffle having a waist at the telescope focal point as recited, weak stray reflections of the amplified beam can be coupled into the conjugator. These stray beams can interfere with the main conjugated beam, and cause breakdown of the liquid in the SBS cell. Such breakdown of the liquid results in disruption of the conjugation and fouling of the cell for continued operation. Also, because the stray beams couple to the main SBS reflection, a "3-way mixing" process can result, that is highly efficient at reflecting the unwanted beams with substantial energy back to the amplifier loop.

Accordingly, reconsideration of the rejection of claim 20 is requested.

Rejection of Claim 14 under 35 U.S.C. §103(a)

The Examiner has rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over Dane et al., in view of Crofts et al. (Experimental and theoretical investigation of two-cell stimulated-Brillouin-scattering systems, J. Opt. Soc. Am. B/Vol.8, No. 11/November 1991). Reconsideration is respectfully requested.

The Examiner has taken the position that Dane et al. teaches a relay telescope that relays an image of the beam to an SBS focal point. As recited in the claim, the SBS focal point is within the focused SBS cell. As discussed above in connection with claim 20, this is mistaken. Dane et al. teaches a down collimating telescope. The focal points of a down collimating telescope are at the imaginary, plus and minus infinity, and not within a focused SBS cell. Also, the Examiner has taken the position that Crofts et al. teaches a beam splitter, directing a fraction of the beam to an alternate path focal point, and alignment detector as recited in the claim, at the

alternate path focal point. Again, the Examiner is mistaken. The beam splitter in Crofts et al. directs a fraction of the beam to a power detector, that is not configured for detecting alignment. Furthermore, the claim requires that the beam splitter be located between the telescope and the first SBS cell. In Croft et al., the beam splitter is between the SBS cells.

Accordingly, reconsideration of the rejection of claim 14 is requested.

Allowed Claims

The Examiner has allowed claims 1-13, 15-19, 21-32 and 42. Such claims are not amended.

CONCLUSION

It is respectfully submitted that this application is now in condition for allowance, and such action is requested. If the Examiner believes a telephone conference would aid the prosecution of this case in any way, please call the undersigned at (650) 712-0340.

The Commissioner is hereby authorized to charge any fee determined to be due in connection with this communication, or credit any overpayment, to our Deposit Account No. 50-0869 (MICI 1002-3).

Respectfully submitted,

Dated: 2 November 2006

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APPENDIX

Attachments: 2 Replacement Sheets